

# KENTUCKY OPERATOR CERTIFICATION NEWSLETTER

FEBRUARY 2011



## Are There New Regulations That Could Affect our Operations?

By Ken Mercer

**Question:** It seems there's an unending parade of new and changing regulations these days. Is there anything on the horizon that could affect my water system?

**Answer:** Several regulatory developments may affect public water systems (PWSs) in 2011 and beyond. Following are some of the major developments:

### Revised Total Coliform Rule

The US Environmental Protection Agency (USEPA) has proposed revisions to the 1989 Total Coliform Rule (TCR) that would require all PWSs having an indication of coliform contamination in the distribution system to assess the problem and take corrective action. The 2010 proposed Total Coliform Rule (RTCR) is available online (<http://water.epa.gov/lawsregs/rulesregs/sdwa/tcr/regulation.cfm>). The final RTCR is tentatively scheduled in 2012.

The proposed RTCR

- Requires public water systems that are vulnerable to microbial contamination to identify and fix problems.
- Establishes criteria for systems to qualify for and remain on reduced monitoring, thereby providing incentives for improved water system operation.
- Provides criteria that well-operated systems must meet to qualify for and stay on reduced monitoring.
- Requires increased monitoring for high-risk small systems that have an unacceptable compliance history.
- Mandates new monitoring requirements for seasonal systems, such as state and national parks.

Under the proposed RTCR, total coliforms would be used as indicators of a distribution system's

integrity, and *E. coli* would serve as an indicator of fecal contamination presence. The proposed rule would establish a Maximum Contaminant Level (MCL) for *E. coli* at zero and eliminate the total Coliform MCL, replacing it with a treatment technique for Coliform that requires assessment and corrective action. Removing the current total Coliform methods aren't of fecal origin and don't have direct public health implications. Total Coliforms in a Distribution system may indicate a potential pathway for contamination but, by themselves, don't represent a health threat.

Under the proposed revision, a PWS that exceeds a specified frequency of total Coliform occurrences must assess and determine if any sanitary defects exist and, if found, correct them. Each total Coliform-positive sample would be assayed for *E. coli*. In addition, under the proposed treatment technique requirements, a PWS that incurs an *E. coli* MCL violation must conduct an assessment and correct any sanitary defects found.

The proposed RTCR would eliminate monthly public notification requirements based only on the presence of total coliforms. Instead, the proposed rule requires public notification when an *E. coli* MCL violation occurs or when a PWS fails to conduct the required assessment and corrective action.

Opflow January 2011

[www.awwa.org/opflow](http://www.awwa.org/opflow)

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## Emergency Reimbursement Grant (ERG)

**\*\*Notice\*\*** The Certification Program would like to announce that the Expense Reimbursement Grant (ERG) is no longer available to provide financial assistance services for reimbursement of examination and training fees or for travel expenses. Funds from this grant have been exhausted.

## Reducing Energy Usage in Water and Wastewater Facilities

*Water Online the Magazine Clean Water Edition  
www.wateronline.com*

**BY GRANT VAN HEMERT, PE**

In 2003, a research study by Frost and Sullivan<sup>1</sup> examined criteria used by water and wastewater facilities in making purchasing decisions. Out of 12 criteria listed, the overall operational cost, including energy usage, ranked as the seventh priority. Therefore, energy usage has received only moderate attention in equipment purchasing decisions.

However, recent events are changing how energy usage is perceived. One example is the post-Katrina volatility in the energy market. Some events are more indirect, such as the testimony of Jeannette Brown, vice president of the Water Environment Federation, to a U.S. House of Representatives subcommittee on Feb. 4, 2009,<sup>2</sup> or the entry of the Energy Star program into the water and wastewater industry<sup>3</sup>.

These events demonstrate that energy is becoming a major concern. Approximately one-third of a municipality's energy bill represents water and wastewater treatment costs. Additionally, more than \$4 billion is spent each year in the United States on energy for water and wastewater. A 10% reduction in energy usage would result in 5 billion kilowatthours (kwh) saved annually and approximately \$400 million in savings to cash-strapped municipalities<sup>4</sup>. A reduction of 5 billion kwh would lead to a reduction in water usage by thirsty power plants, reducing stress on overburdened water resources. An understanding of where energy is spent enables facilities to evaluate how to reduce power consumption.

### Energy Action Plans

Energy action plans, or energy studies, identify and analyze energy usage in a water system's major processes. That information, supplemented by discussions with facility staff members and historical energy consumption data, provides a framework for analysis. Energy savings recommendations are made by matching a plant's utility profile with technologies and process improvements that have been successfully applied in similar environments.

### Power Monitoring

A facility is billed only by its connection to the power

utility. However, monitoring power at this point exclusively is inadequate for a detailed power consumption study. For instance, various causes, such as an inefficient pump or the processing of biosolids, may lead to a 15 increase in power consumption. With a single point of data collection, it can be difficult to determine the exact cause of power usage changes. Only a fully integrated power monitoring system can determine what occurred at a given point in time. Power monitoring cannot directly save energy, but it can reveal opportunities to reduce energy usage, such as changes in operations or equipment.

### Data Monitoring

Process integrity is one of the most important concerns in a treatment facility. Energy usage is the largest operating expense; yet, most process Supervisory Control and Data Acquisition (SCADA) systems do not have adequate power analysis tools. Only power SCADA software has the tools for power monitoring and tools for proper process control and monitoring. This software enables correlation of processes with power consumption. For instance, an operator can determine the dissolved oxygen level, how long a particular rotor has been operating, how much power the rotor is consuming, and if the power consumption has changed during the last six months. Only when a facility's SCADA system is properly configured can the process be correlated with power consumption, resulting in process and power optimization to reduce costs and tax burden.

Energy action plans, power monitoring and data monitoring help determine where energy is being used. Understanding areas that impact power usage and quality can lead to significant energy and cost savings.

### Process And Procedural Changes

Some facilities may be able to save money by shifting operations. Although this may not save energy, it can reduce the expenditure a utility pays for power. For instance, a water treatment facility may have a policy of pumping water into the towers at 4 p.m. every day in anticipation of the 5 p.m. rush hour. However, utility

*(Continued on page 3)*

**Reducing Energy** *(Continued from page 2)*

demand charges may decrease at 5 p.m. If it is possible to shift the tower filling to 5 p.m., the demand charge is reduced, thus saving money.

**Pumping and Blowers**

Variable frequency drives (VFDs) can provide better control over blowers and pumps, leading to power savings in one of the areas that consume the largest amounts of power. Affinity Laws state that when speed increases, power must increase by the cube. This means that decreasing a pump speed to 80% of full capacity uses only half of the power. However, just putting a VFD on a pump or blower will not guarantee savings. The speed must be regulated. Some facilities will manually change speed at night during lower flows and then raise it during the day. Although this offers some savings, a properly developed automatic control scheme will provide optimum savings by determining the desired speed with desired output.

**Ultraviolet and Ozone**

With the leak, storage, transportation, and disinfection byproduct concerns related to chlorine, ultraviolet (UV) and ozone are becoming more attractive disinfectants. However, UV and ozone consume large amounts of power and need a reliable power source during the entire time the plant is operating. They also can create electrical distortion on the power lines. From an energy perspective, these systems need to be continually monitored. Bulbs, sensors, and electrodes must be properly maintained to ensure efficiency. Monitoring power consumption on these systems must be vigilant. If energy consumption starts to rise, the reason should be determined. Perhaps one of the most important aspects of power control in a UV and ozone system is the automatic controls that are part of the package. The quality of the algorithm implemented can have a great deal to do with the amount of power consumed. A tight algorithm may better manage energy, while a looser algorithm may default to overilluminating or overproducing. In the case of a nonfunctioning control system, a utility may decide to turn on all UV bulbs or operate all ozone generators. Although these approaches will ensure enough disinfection capability, they waste power. Thus, rapid repair to a nonfunctioning system is extremely critical. Some wastewater applications may not need UV during the winter. Some utilities may decide to keep the UV system in service — even at a reduced dosage — to ensure disinfection. While this does add a layer of protection, it also causes an unneeded expenditure in power and increases operating expenses. Shutting down the unit, if possible, may decrease expenses.

**Pump Stations**

With the Energy Star program's entry into the water and wastewater industry, total power consumption reduction goals will be increasingly implemented in treatment facilities and pump stations. A lot has been said about the benefits of a power monitoring system. However, these systems can be cost-prohibitive in small- to medium-sized pump stations. They are typically located outdoors with a stand-alone control panel. Power monitoring at each individual motor was usually cost-prohibitive in these systems; thus, power monitoring was limited to the meter at the utility's power pole. With recent advances, it is now economically possible to add power monitoring capability to a starter, and the power monitoring benefits mentioned above can now be seen on these remote stations. Some of the more progressive units can fit in the same spacing as an overload. With an additional side-mounted module, power monitoring can be achieved on a per motor basis, so every motor in all pump stations can be monitored individually. By monitoring power at each motor in a facility and pump station, power can be fully optimized, and the maximum benefit realized.

**Lighting**

Although process power uses the most energy, lighting cannot be overlooked. In office buildings, lighting represents one of the largest power consumers.<sup>5</sup> Many treatment facilities have office space, control rooms, and other areas with general lighting. Approximately 90% of the energy consumed by an incandescent light bulb is converted to heat,<sup>6</sup> while a fluorescent bulb converts 78% of its energy to heat. Changing to fluorescent lighting can generate savings in three key ways:

1. The fluorescent equivalent of an incandescent bulb uses less energy.
2. The extra heat produced by incandescent bulbs makes air conditioning systems work harder. By reducing the heat load, the air conditioning system will not need to work as hard.
3. Finally, a light bulb is not an efficient heater. By reducing this heat load, a furnace or heat pump will have to make up for the loss of BTUs. However, the superior efficiency of a furnace or heat pump compared with a light bulb could still result in energy usage reduction. With the advent of compact fluorescent bulbs, almost any incandescent fixture can be converted to fluorescent duty. Compact fluorescent bulbs initially cost more than incandescent bulbs. However, evidence suggests their overall cost is less when considering energy consumption and replacement costs. Changing from incandescent to compact fluorescent lighting is only part of the equation. Management of lighting using a SCADA system offers more opportunities to save

*(Continued on page 4)*

**Reducing Energy** (Continued from page 3)

energy. For example, a track lighting system that relies on LED power can reduce energy by as much as 87.5 percent compared with xenon bulbs. Lighting control sensors can automatically turn lights on and off in response to space occupation or according to preset schedules. Other systems allow lights and other circuits to be turned off remotely via the SCADA system.

**Power Factor Correction**

Reduction in power consumption has two main goals: reduce energy usage and decrease expenditures. Reduced energy usage directly impacts the monthly energy bill, but is not the only way to lower an energy bill. Different devices utilize power differently. Motors and transformers are inductive, while lighting, instrumentation and computers are resistive. Power utilities strive for a uniform resistive power loading, which inductive loads tend to skew, leading to higher bills from the utility. Power factor correction starts with a parameter called power factor, which is a measurement found in a power monitoring system. A power factor correction system can help the power load look as resistive as possible and can lower an energy bill.

**Conclusion**

Water and wastewater agencies and municipalities have an unspoken mandate to keep the environment clean. After all, that is the very purpose of their existence. However, according to [BlueSkyModel.org](http://www.stewartmarion.com/carbon-footprint/html/carbon-footprint-kilowatthour.html), 1 lb. of carbon dioxide is produced for each kwh of electricity used in the United States.<sup>7</sup> Properly managing power in a water or wastewater agency not only increases reliability and reduces operating cost, but has a direct impact on the amount of greenhouse gases produced, helping meet the unspoken mandate of green operations. Understanding and managing energy usage ensures energy is utilized in the most efficient manner.

**References**

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4. EPA Energy Star in Water and Wastewater fact sheet ([http://www.energystar.gov/ia/business/government/wastewater\\_fs.pdf](http://www.energystar.gov/ia/business/government/wastewater_fs.pdf))
5. Gulf Coast CHP Application Center (<http://www.gulfcoastchp.org/Markets/Commercial/OfficeBuildings>)
6. Incandescent Light Bulb Wikipedia page ([http://en.wikipedia.org/wiki/Incandescent\\_light\\_bulb#Comparison\\_of\\_electricity\\_cost](http://en.wikipedia.org/wiki/Incandescent_light_bulb#Comparison_of_electricity_cost))
7. BlueSkyModel.org (<http://www.stewartmarion.com/carbon-footprint/html/carbon-footprint-kilowatthour.html>)

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Water Online The Magazine, Clean Water Edition



Control

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**Water Use**

Public water supply used 43 billion gallons (163 million m<sup>3</sup>) per day in 2000 serving 242 million people, corresponding to 21 percent of total water use in the same year. Residential (home) water use accounts for 66 percent of publicly supplied water in the United States, with the remainder being used by offices, public buildings, businesses and industry that does not have its own water sources. Residential end use of water in the United States is equivalent to more than 1 billion glasses of tap water per day. Total water use was 161 gallons (608 liter) per capita per day in 1996–1998, excluding leakage. Fifty-eight percent is used outdoors for gardening, swimming pools, etc., corresponding to 101 gallons (382 liter) per capita per day, and 42 percent is used indoors, corresponding to 60 gallons (226 liter).<sup>11</sup> The arid West has some of the highest per capita residential water use because of landscape irrigation.

Indoor use falls into the following categories:

Body Cleanliness	Washing	18% Faucets
31% Toilets	25% Clothes Washing	3% Other Domestic Uses
2% Baths	2% Dishwasher	
19% Showers		



Toilets account for 31% of indoor water use in the U.S.

Per capita residential water use in the United States is more than four times as high as in England (150 l/c/d) and five times as high as in Germany (126 l/c/d). Only a very small share of public water supply is used for drinking. According to one 2002 survey of 1,000 households, an estimated 56% of Americans drank water straight from the tap and an additional 37% drank tap water after filtering it. 74% of Americans said they bought bottled water. According to a non-representative survey conducted among 216 parents (173 Latinos and 43 non-Latinos), 63 (29%) never drank tap water. The share is much higher among Latinos (34%) than among non-Latinos (12%). The study concluded that many Latino families avoid drinking tap water because they fear it causes illness, resulting in greater cost for the purchase of bottled and filtered water. This notion is also repeated among Asians as well.<sup>1</sup>

Source: [http://en.wikipedia.org/wiki/Water\\_supply\\_and\\_sanitation\\_in\\_the\\_United\\_States](http://en.wikipedia.org/wiki/Water_supply_and_sanitation_in_the_United_States)



## Wastewater Renewal News

The 2011 renewal season for wastewater treatment and collection system operators opened on Jan. 1, 2011.

Wastewater treatment and collection system certifications expire on June 30 of odd-numbered years. Certifications shall remain valid until the expiration date, unless suspended, revoked or replaced by a higher classification certificate before that date. Certificates issued between Jan. 1 and June 30 of a renewal year will be issued to include the next two-year renewal period. If a certified operator fails to renew his or her certificate, the certificate shall terminate if not renewed on or before Dec. 31 of the year the certification expired. Certified operators with expired certificates shall not be in responsible charge of a drinking water or wastewater facility.

Certified operators (excluding OIT certificates) may renew their license(s) electronically through the cabinet Website using the [E-Search](#) link or by submitting the Application for Certification Renewal and the appropriate fee to the Division of Compliance Assistance, Certification and Licensing Branch, 300 Fair Oaks Lane, Frankfort, KY 40601.

Certified operators who are designated an Operator in Training may renew a certification without examination if the operator has:

- Satisfied the continuing education requirements;
- Earned the required years of operational experience;
- Submitted an Education and Experience Documentation Form documenting their experience;
- Submitted a letter of recommendation from a mentor; and
- Submitted a completed Application for Certification Renewal form and the renewal fee to the cabinet or has renewed the certification electronically on the cabinet's Website.

**Submit the renewal online and save 50 percent on the certification renewal fee.**

**Renewal application fee if renewed prior to expiration date:**

\$50 if renewed through the cabinet website

\$100 if not renewed through the cabinet website

**Renewal application fee if renewed after expiration date:**

\$250, plus the renewal fee

### Certification fees are nonrefundable.

All forms necessary for the application, registration and renewal of wastewater operator certification are available on the department's [forms library](#).

This [fact sheet](#) will provide general guidance on how to renew drinking water and/or wastewater system operator certification.

Renewal requirements are outlined in [401 KAR 11:050, Section 3](#).

Wastewater treatment and collection certified operators training hours shall expire two years from the date earned. Certified operators holding both a treatment and a collection certificate shall complete the required number of cabinet-approved training hours for the highest certificate held in lieu of completing the required number of continuing education hours required for both certificates.

***Reminder -- Continuing education hours earned prior to certification shall not count toward certificate renewal.***

Wastewater  
Operators  
Always  
Renew in  
Odd-Numbered  
Years

Drinking  
Water  
Operators  
Always  
Renew in  
Even-Numbered  
Years

### Math Corner

AWWA Certification Corner

1. What's the angle of the bars on a manually cleaned bar screen?

- A. 25°
- B. 30°
- C. 33°
- D. 45°

2. Free Chlorine residual values are based on a contact time of at least

- A. 1 min.
- B. 10 min.
- C. 30 min.
- D. 60 min.

*(Answers on page 11)*

## IN THE NEWS

### Arsenic-Eating Bacteria Create Worlds Of Possibility

December 3, 2010

*By Kevin Westerling*

Recently, NASA officials announced the [discovery of arsenic-eating bacteria](#) that challenges the understanding of life as we know it. The organisms are unique in that they subsist without phosphorus, thought to be a universal building block of all living things, substituting arsenic in its place. Recovered from the arsenic-rich confines of Mono Lake in California, the bacterium actually thrives on the poisonous element, incorporating arsenic into its DNA. The landmark finding has excited the scientific community by opening the door for many possibilities, both terrestrial and [beyond](#). But what does it all mean for Earth's fundamental element — water?



*Mono Lake, California (Credit: NASA)*

As reported by [Discovery News](#), the revelation represents a potential breakthrough for wastewater treatment, according to Arizona State University's James Elser. "Phosphorus is a big issue for sustainability and the quality of aquatic ecosystems. When it leaks out of systems, out of agricultural systems, it functions as a pollutant," Elser is quoted. "It's really exciting to think about the possibilities that are raised by a clever organism that evolved a way to do without phosphorus, possibly, and how it might be used in wastewater treatment, recovering phosphorus from various sources."

[Water Online Newsletter December 2009](#)

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### Operator Shortage

*On Tap Spring/Summer 2010 pg 20*

One of the fastest growing occupations in the U.S. is that of a water treatment plant and system operator. In fact, the number of available jobs is expected to grow 14 percent between 2006 and 2016, faster than the average for all occupations, according to the U.S. Department of Labor's Bureau of Labor Statistics (BLS). That's the good news. The bad news is that these are precisely the jobs at greatest risk to go unfilled for lack of qualified applicants. Two key challenges to this pending crisis are how to find new talent and retain employees.

#### Have Some Respect

A key reason operators are not remaining in or entering the field is money. "Although they are charged with protecting human health and the environment, operators are one of the poorest paid groups of public employees", says Jerry Biberstine, senior environmental engineer, National Rural Water Association. In fact, the national annual mean average for this occupation in 2008 was \$39,950 according to BLS. This salary is particularly uncompetitive for someone working in a large plant in a large city. Those working in smaller communities typically have lower salaries, sometimes much lower.

But competitive salaries and benefits are not the only motivators for retaining or recruiting employees. There are other things you can do to keep your employees content. Musician Aretha Franklin sang about it, Comedian Rodney Dangerfield joked about it, and water operators suffer from it—a lack of respect. "This is especially a problem for operators in small systems where they are expected to be everything from garbage collector to dog catcher," says Biberstine. "A lot of times the water side isn't considered as important as the wastewater side, even though the public health impacts can be tremendous, and the specific responsibilities are enormous."

*(Continued on page 7)*

## Certification Boards Business Meeting Schedule 2011

These are public meetings and all operators are encouraged to attend.

The meetings are held in Frankfort at 300 Fair Oaks Lane, Room 301B. It is recommended that you check with the Certification and Licensing Branch office before attending. There may be changes in the schedule due to inclement weather.

Wastewater board meetings start at 11:00 a.m. eastern standard time and water board meetings start at 1:30 p.m. eastern standard time unless noted differently.

### **2011 Wastewater Certification Board Meetings**

Jan. 18, 2011  
Feb. 15, 2011  
March 28, 2011 Louisville  
April 19, 2011  
May 17, 2011  
June 14, 2011  
July 19, 2011  
Aug. 16, 2011  
Sept. 20, 2011  
Oct. 18, 2011  
Nov. 15, 2011  
Dec. 13, 2011

### **2011 Water Certification Board Meetings**

Jan. 20, 2011  
Fe. 17, 2011  
March 29, 2011 Louisville  
April 21, 2011  
May 19, 2011  
June, 23, 2011  
July 21, 2011  
Aug. 18, 2011  
Sept. 15, 2011  
Oct. 20, 2011  
Nov. 17, 2011  
Dec. 15, 2011

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#### **Shortage** *(Continued from page 6)*

The NESC training manual, *Managing a Small Drinking Water System: A Short Course for Local Officials* supports this belief when it states that a key to retaining workers is how they are managed. "Do not micromanage," the manual says. "The operator is responsible for running the water system and knowing its customers...trust the operator to make day-to-day decisions. The benefits of sharing power with employees increase employee motivation, communication, job skills and trust."

Regardless which techniques you use to spread the word about a career in the water industry, finding and keeping employees shouldn't rest on luck. "Adequate pay, a chance for advancement, continued training and challenging levels of responsibility will not only bring young people into the field, it will also assure their interest and loyalty to the job," says Bilberstine. "Utilities must create the proper atmosphere to bring interested employees into the field, and more importantly, to keep them there."

#### **For more information**

To learn more about community colleges that have water programs, see American Water Works Association. "Community Colleges with Water Programs."

Download at [www.awwa.org/Membership/Content.cfm?itemnumber-34980&navitemNumber=1431](http://www.awwa.org/Membership/Content.cfm?itemnumber-34980&navitemNumber=1431)

## New and Upgraded Licenses August—December 2010

Name	Type of License
David L King	DW Bottled Water
Estil Bentley Jr	DW Bottled Water
Estil Bentley Sr	DW Bottled Water
Gregory Breeding	DW Bottled Water
Harold J Carstedt	DW Bottled Water
Jim Myers	DW Bottled Water
John E Lambert	DW Bottled Water
Joseph L Ingram	DW Bottled Water
Obie S Williams	DW Bottled Water
Robert L Younger Jr	DW Bottled Water
Sarah A Myers	DW Bottled Water
Andrew B Myers	DW Distribution I
Brandon D Gates	DW Distribution I
Cecil W Whitler	DW Distribution I
Chris N Moye	DW Distribution I
Clement Blankenship	DW Distribution I
Clyde D Hamilton	DW Distribution I
Danny L Carroll	DW Distribution I
Darren C Clark	DW Distribution I
Edward J Hanners Jr.	DW Distribution I
Michael A West	DW Distribution I
Patrick J Nichols	DW Distribution I
Roger L Bush	DW Distribution I
Roger W Stewart	DW Distribution I
Sean G Howard	DW Distribution I
Thomas B Allen	DW Distribution I
Travis S Hickerson	DW Distribution I
Westley M Caudill	DW Distribution I
James A Corley	DW Distribution I OIT
Kristopher H Henderson	DW Distribution I OIT
Adam J Gwin	DW Distribution II
Alan W Fox	DW Distribution II
Benny J Jacobs	DW Distribution II

Name	Type of License
Blake Bolin	DW Distribution II
Brian L Durham	DW Distribution II
Charles T McConnell	DW Distribution II
Colin S Cissell	DW Distribution II
David A Cotton	DW Distribution II
Denney A Quisenberry Jr.	DW Distribution II
Edward J Hanners Jr.	DW Distribution II
Jason D Syck	DW Distribution II
Jessie R Gray	DW Distribution II
John W Hall	DW Distribution II
Jonathan J Wilburn	DW Distribution II
Lester C Burkhart	DW Distribution II
Lester L Stapleton	DW Distribution II
Michael A Brown	DW Distribution II
Nicholas Townsend	DW Distribution II
Obie J York	DW Distribution II
Phillip D Starks	DW Distribution II
Ricky R Harness	DW Distribution II
Robert C Crase	DW Distribution II
Roger F Shrum	DW Distribution II
Ronnie Haste	DW Distribution II
Shawn H Baldwin	DW Distribution II
Teddy Hunt	DW Distribution II
Tim G Geneve	DW Distribution II
Timothy C Wade	DW Distribution II
Timothy L Hall	DW Distribution II
Brian A Harris	DW Distribution III
Dale L White	DW Distribution III
Ellery D Arnett	DW Distribution III
Herbert R Hayden	DW Distribution III
Jason L Gomez	DW Distribution III
John W Potter II	DW Distribution III
Joseph S Harris	DW Distribution III

Name	Type of License
Joshua L Meredith	DW Distribution III
Joshua S Adams	DW Distribution III
Kenneth E Fisher	DW Distribution III
Kevin T Gibson	DW Distribution III
Lawrence E Richey	DW Distribution III
Matthew E Smith	DW Distribution III
Michael D Herald	DW Distribution III
Richard A Porter	DW Distribution III
Roger D Smallwood	DW Distribution III
Samuel K Bolen	DW Distribution III
Steven L Warren	DW Distribution III
Travis R Watt	DW Distribution III
Gordon D Pike III	DW Distribution IV
Gregory A Peck II	DW Distribution IV
Harley F Armstrong	DW Distribution IV
Joseph T Hayden	DW Distribution IV
Kyle R Hancock	DW Distribution IV
Michael B Flynn	DW Distribution IV
Michael D Moseley	DW Distribution IV
Bobby S Bowling	DW Treatment IAD
Christopher R Wiles	DW Treatment IAD
David M Winn	DW Treatment IAD
James L Nunn	DW Treatment IAD
Joshua Thompson	DW Treatment IAD
Nathan D Witham	DW Treatment IAD
Perry A Alexander	DW Treatment IAD
Robert L Shults	DW Treatment IAD
Tim R Johnson	DW Treatment IAD
Anthony R Sherrell	DW Treatment IAD OIT
Jimmy A Ross	DW Treatment IAD OIT
Rebecca A Lancaster	DW Treatment IBD
Bruce T Jones	DW Treatment IIA
George L Hall	DW Treatment IIA
Jason S Bertram	DW Treatment IIA
Jeremy K Moore	DW Treatment IIA
Lukus J Strunk	DW Treatment IIA



## New and Upgraded Licenses July—December 2010 (cont.)

Name	License Type
Matthew K Collins	DW Treatment IIA
Melissa Burden	DW Treatment IIA
Michael D Hale	DW Treatment IIA
Solomon A Hall	DW Treatment IIA
Barry D Stone	DW Treatment IIIA
Chad E Barnett	DW Treatment IIIA
Christopher S Rowe	DW Treatment IIIA
Danny L Carroll	DW Treatment IIIA
Eugene L Bledsoe	DW Treatment IIIA
Gerald B Adams	DW Treatment IIIA
Jackie D Cox	DW Treatment IIIA
Leslie P Lange	DW Treatment IIIA
Matthew K Collins	DW Treatment IIIA
Philip W Cooper	DW Treatment IIIA
Rodney C Sparks	DW Treatment IIIA
Solomon A Hall	DW Treatment IIIA
Steven S Rowe	DW Treatment IIIA
Teresa J Cardwell	DW Treatment IIIA
Timothy L Hall	DW Treatment IIIA
Adam R Whitlock	DW Treatment IVA
Albert B Duncan	DW Treatment IVA
Brad E Sparks	DW Treatment IVA
Chad E Smart	DW Treatment IVA
Christopher W Smith	DW Treatment IVA
Daryl S Partin	DW Treatment IVA
Dusty A Florence	DW Treatment IVA
Gregory G Roberts	DW Treatment IVA
Justen T Dennis	DW Treatment IVA
Michael W Partin	DW Treatment IVA
Morris L Collins	DW Treatment IVA
Phillip D Manning	DW Treatment IVA
Randy K Kemp	DW Treatment IVA
Rob H Applegate	DW Treatment IVA
Timothy N Graham	DW Treatment IVA
Wesley D Wilson	DW Treatment IVA
William G Allen	DW Treatment IVA

Name	License Type
David D Westerfield	DW Treatment IVA OIT
Aaron B Pyles	WW Collection I
Billie S Carson	WW Collection I
Brad S Beatty	WW Collection I
Daniel R Clifford	WW Collection I
Danny R Woosley	WW Collection I
David A Cunningham	WW Collection I
Devon H Shelton	WW Collection I
Eric T Perkins	WW Collection I
Everett L Rucker	WW Collection I
Gerald W Crowder	WW Collection I
Jesse A Moore	WW Collection I
Justin C Reed	WW Collection I
Justin D Sensabaugh	WW Collection I
Shawn T Ford	WW Collection I
Stephen M Ocheltree	WW Collection I
William L Caudill	WW Collection I
Joe H Cantrell II	WW Collection I - OIT
Billy J Gillum	WW Collection II
Christopher S Davidson	WW Collection II
Dustin L Hamilton	WW Collection II
John R Turner	WW Collection II
Johnny R Collins	WW Collection II
Karl W Doll	WW Collection II
Kenneth D Powell	WW Collection II
Mark Smith	WW Collection II
Marshall C Gibson	WW Collection II
Ronnie E Fox	WW Collection II
Samuel K Bolen	WW Collection II
Tim R Fitzgerald	WW Collection II
Timothy J Hughes	WW Collection II
Todd T Jones	WW Collection II
Charles D McDonald	WW Collection III
David J Ciez	WW Collection III
Dennis Alan Minch Sr.	WW Collection III
Derek S Helms	WW Collection III

Name	License Type
Steven V Rasmussen	WW Collection III
Daniel E Fey	WW Collection IV
Daren S Thompson	WW Collection IV
Ricky E Dearing	WW Collection IV
Roy Flynn	WW Collection IV
Andrew B Myers	WW Treatment I
Austin L Gipson	WW Treatment I
Braxton T Anderson	WW Treatment I
Bryan T Hale	WW Treatment I
Charles A Smither	WW Treatment I
Christopher J Reeves	WW Treatment I
Cody A Gowins	WW Treatment I
Corey B Sugg	WW Treatment I
David A McStoots	WW Treatment I
Edwin L Thompson	WW Treatment I
Floyd J Holbrook	WW Treatment I
James M Smith	WW Treatment I
Jamey Keathley	WW Treatment I
Jesse A Moore	WW Treatment I
John E Mount	WW Treatment I
Johnny Adkins	WW Treatment I
Johnny R Murphy	WW Treatment I
Kendrietta D Hayes	WW Treatment I
Martin A Riedling Sr.	WW Treatment I
Michael J Crabtree	WW Treatment I
Richard C Steele	WW Treatment I
Robert L McCord	WW Treatment I
Samuel N Frazier	WW Treatment I
Sharon K Cornett	WW Treatment I
Shawn M Pierce	WW Treatment I
Stephen R Clemons	WW Treatment I
Thomas A Green	WW Treatment I
Thomas K Harley	WW Treatment I
Tim W Donnelly	WW Treatment I
William E Hurley	WW Treatment I
Aaron A Dourson	WW Treatment I - OIT

## New and Upgraded Licenses July—December 2010 (cont.)

Name	License Type
Chiffon D Vaughn	WW Treatment I - OIT
Lyndon D Slone	WW Treatment I - OIT
Ronald E Scherer	WW Treatment I - OIT
Adam C Headrick	WW Treatment II
Calvin Smith	WW Treatment II
Christopher J Keffer	WW Treatment II
Daniel A Arnold	WW Treatment II
Daniel A Brooks	WW Treatment II
Danny L Carroll	WW Treatment II
Ellis E Anderson III	WW Treatment II
Elmer V Tipton Jr.	WW Treatment II
Glenn E Gosman	WW Treatment II
Jansen D Barrett	WW Treatment II
Jerry K Bowman	WW Treatment II
Keith Liter	WW Treatment II
Lindsey A Hughes	WW Treatment II
Michael Fogle	WW Treatment II
Misty L Derron	WW Treatment II
Paul A German	WW Treatment II
Paul E Mitchell	WW Treatment II
Richard M Carter	WW Treatment II
Samuel K Bolen	WW Treatment II
Sarah L McAfee	WW Treatment II
Tony O Malicote	WW Treatment II
Wesley T Cobb	WW Treatment II
Wilda E Hoover	WW Treatment II
William C Oliver	WW Treatment II
Bryant B Buijk	WW Treatment II - OIT
Bobby W Lykins	WW Treatment III
Brandon M Cox	WW Treatment III
Cecil L Lockaby	WW Treatment III
David A Bollinger	WW Treatment III
David R Coe	WW Treatment III
Ellis E Anderson III	WW Treatment III
Greg D Spillman	WW Treatment III
James B Walker	WW Treatment III

Name	License Type
Jerry B Brown	WW Treatment III
Joseph S Smith	WW Treatment III
Josh L Gabbard	WW Treatment III
Kerry L Karcher	WW Treatment III
Kevin L Thompson	WW Treatment III
Patrick A Jelinek	WW Treatment III
Paul E Mitchell	WW Treatment III
Paul W Davis	WW Treatment III
Reginald G Brown	WW Treatment III
Scott W Johnson	WW Treatment III
Shelby G Carrier Jr.	WW Treatment III
Stacy Grow	WW Treatment III
Thomas D Salmon	WW Treatment III
Adam D Krieg	WW Treatment IV
Phillip D Manning	WW Treatment IV

### Congratulations!



Remember it is the responsibility of operators to ensure that their license is renewed on time. Check your wallet card for the expiration date of your license.

If you fail to renew your license by the expiration date on the card, your license will go into an “expired” status and will terminate after Dec. 31 of the renewal year. If a license is expired, a late fee of \$250.00 will be added to the cost of renewal. If your license terminates, you will be required to retest in order to re-obtain your license.

*Cont from pg. 4 Answers to math questions*

1. Answer: **b.** A bar screen may be manually cleaned (bars or screens are placed at an angle of 30° for easier solids removal) or mechanically cleaned (bars are placed at a 45°-60° angle to improve mechanical cleaner operation). Source: Spellman, F.R. and J. Drinan, Wastewater treatment Operations Made Easy: A Practical Guide for Licensure. DEStech Publications, page 111 (catalog No. 20724).
2. Answer **b.** 10 min. Temperature pH, and contact time are important variables that affect chlorination effectiveness. As these factors change, the amount of residual needed will also change. Free residual values are based on a contact time of at least 10 min. Source: AWWA, Principles and Practices of Water Supply Operations, Water Treatment, Fourth Edition, page 203 (Catalog No. 1956).

## Upcoming Continuing Education Events

Date of Training	Location	Course Title and Event Code	Program Category	Number of Training Hours
March 3-4, 2011	Jenny Wiley SRP 75 Theatre Ct., Prestonsburg, KY 40122	FOG—Fats, Oils and Grease (WW 8806)	WW	12
March 9-10, 2011	London WWTP Training Center 300 Lagoon Trl., London, KY 40744	Disinfection, Optimization and Leak Detection (DW 8790)	DW	12
April 6-7, 2011	Cumberland Falls SRP 7351 Hwy 90 Corbin, KY 40701	SCADA (CDW8791)	DW and WW	12

Our 2011 training schedule contains a full year of certification schools. The continuing education courses are scheduled in four-month increments.

This will allow the branch to be more responsive to requests for training on topics requested by operators and their facilities.

Contact Julia Kays for more information.

Continuing education courses for May through August will be scheduled in late February. The courses will be listed on our website and a training schedule will be mailed in early March.



We would also like to thank the following hotels for offering discounted rates to individuals attending our training. Check the Operator Training page on our website for additional information and directions to the hotels listed below.

Quality Inn & Suites  
7915 US HWY 42  
Florence, KY 41042  
859-371-4700  
\$45.99 per room/night

Best Western Plus  
Madisonville Inn  
1891 Lantaff Blvd.  
Madisonville, KY 42431  
270-821-2121  
\$78.10 per room/night

Hampton Inn  
2075 US HWY 192  
London, KY 40741  
606-877-1000  
\$69.00 per room/night

[dca.ky.gov/certification](http://dca.ky.gov/certification)

*We would like to thank the following for offering complimentary training rooms: Florence Government Center, London Wastewater Treatment Plant, and Madisonville Economic Development.*

## 2011 Certification Training Schedule

Date of Training	Location	Course Title	Program Category	Number of Training Hours
Jan. 11-14, 2011	Madisonville Economic Development Building 755 Industrial Dr., Madisonville, KY 42431	Groundwater Cert. School (DW 8792)	DW	18
Jan. 24-27, 2011	DEP Training Center 300 Fair Oaks Ln., Frankfort, KY 40601	Wastewater Treatment Cert. School (WW 8807)	WW	18
Feb. 9-11, 2011	Barren River SRP 1149 State Park Rd., Lucas, KY 42156	Collection Cert. School (WW 8808)	WW	12
Feb. 14-17, 2011	DEP Training Center 300 Fair Oaks Ln., Frankfort, KY 40601	Surface Water Treatment Cert. School (DW 8793)	DW	18
March 28-31, 2011	Galt House 140 N. 4th St., Louisville, KY 40202	Distribution Cert. School (DW 8794)	DW	18
March 28-31, 2011	Galt House 140 N. 4th St., Louisville, KY 40202	Wastewater Treatment Cert. School (WW 8809)	WW	18
April 12-14, 2011	DEP Training Center 300 Fair Oaks Ln., Frankfort, KY 40601	Bottled Water Cert. School (DW 8795)	DW	12
April 25-27, 2011	Kentucky Dam Village SRP 113 Administration Dr., Gilbertsville, KY 42004	Collection Cert. School (WW 8810)	WW	12
May 10-13, 2011	Kentucky Dam Village SRP 113 Administration Dr., Gilbertsville, KY 42004	Surface Water Treatment Cert. School (DW 8796)	DW	18
May 17-20, 2011	Buckhorn Lake SRP 4441 HWY 1833, Buckhorn, KY 41721	Wastewater Treatment Cert. School (WW 8811)	WW	18
June 7-0, 2011	Lake Barkley SRP 3500 State Park Rd., Cadiz, KY 42211	Wastewater Treatment Cert. School (WW 8812)	WW	18
June 14-17, 2011	Lake Barkley SRP 3500 State Park Rd., Cadiz, KY 42211	Distribution Cert. School (DW 8797)	DW	18
July 19-22, 2011	Pine Mountain SRP 1050 State Park Rd., Pineville, KY 40977	Groundwater Treatment Cert. School (DW 8798)	DW	18
Aug. 2-4, 2011	DEP Training Center 300 Fair Oaks Ln., Frankfort, KY 40601	Collection Cert. School (WW 8813)	WW	12
Aug. 16-19, 2011	Jenny Wiley SRP 75 Theatre Ct., Prestonsburg, KY 40122	Surface Water Treatment Cert. School (DW 8799)	DW	18
Sept. 13-16, 2011	Florence Government Center 8100 Ewing Blvd., Florence, KY 41042	Distribution Cert. School (DW 8800)	DW	18
Oct. 4-7, 2011	Barren River SRP 1149 State Park Rd., Lucas, KY 42156	Surface Water Treatment Cert. School (DW 8801)	DW	18
Oct. 25-28, 2011	London WWTP Training Center 300 Lagoon Tr., London, KY 40744	Wastewater Treatment Cert. School (WW 8814)	WW	18
Nov. 15-18, 2011	Carter Caves SRP 344 Caveland Dr., Olive Hill, KY 41164	Distribution Cert. School (DW 8802)	DW	18
Nov. 29- Dec. 1, 2011	Jenny Wiley SRP 75 Theatre Ct., Prestonsburg, KY 40122	Collection Cert. School (WW 8815)	WW	12
Dec. 6-9, 2011	Madisonville Economic Development Building 755 Industrial Dr., Madisonville, KY 42431	Surface Water Treatment Cert. School (DW 8803)	DW	18

## **Kentucky Boards of Certification of Wastewater and Drinking Water Operators**

The Kentucky Board of Certification of Water Treatment and Distribution System Operators and the Kentucky Board of Certification of Wastewater System Operators serve in an advisory capacity to the program. One of the board's activities is the review of continuing education courses for continuing education credit from third-party trainers.

External training providers submitted 201 training requests for board review in the last quarter of 2010. The water certification board approved a total of 461.75 hours from the 140 requests that were reviewed. Trainers had requested over 500 hours. The wastewater certification board reviewed 116 trainings, requesting a total of 500 hours. The board approved over 481 hours from those requests.

The certification board members serve in a voluntary capacity. Members of the wastewater certification board are appointed by the governor and serve a four-year term. The water certification board members are appointed by the Energy and Environment Cabinet secretary and is also a four years term. The statute regulating the drinking water certification board can be found at [KRS 223.170](#). The statute regulating the wastewater certification board is located at [KRS 224.73-110](#). The regulations establishing the duties of the certification boards can be found in [401 KAR 11:010](#).

More information regarding the certification boards can be found on the branch's webpage at [dca.ky.gov/certification](http://dca.ky.gov/certification).

*All board meetings are open to the public, and operators are encouraged to attend.*

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### **Board Member Profile**

#### **Dennis Gumbert**

Dennis Gumbert serves as one of the certified operator members in the wastewater certification board. Dennis holds a Class IV Wastewater Treatment license and a Class III Wastewater Collection License. In addition he also holds IIA Surface Water Treatment, IIIB Groundwater Water Treatment and a Class II Distribution system licenses. At one time he was the only operator in the state to hold all four licenses for Water A& B, distribution and wastewater. Dennis has served on the board since 1999, was chairman of the wastewater board from 2004 until 2009.

Dennis lives in the city of Worthington with his wife and daughter.

Dennis has experience in the management of systems and operation of wastewater systems. He has been awarded numerous industry awards for his service in the areas of water conservation, water quality and pollution prevention. He works as a certified operator for the Greenup County Environmental Commission. One of his many great attributes is a genuine concern for and representation of certified operators in Kentucky.



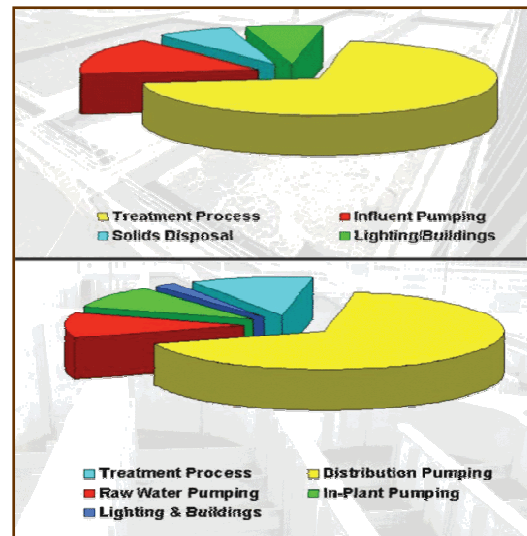


## Improving Energy Efficiency In Water, Wastewater Systems

By Lee E. Ferrell

Wastewater and water treatment plants need a substantial amount of electrical energy to conduct unit processes and operations. Aeration and pumping for wastewater treatment and pumping for water treatment are the main electrical energy users. The U.S. Environmental Protection Agency (EPA) has estimated that 3 percent of the power generated in the US is for water and wastewater treatment. The usage equates to 56 billion kilowatt hours (kWh), \$4 billion and 45 million tons of greenhouse gas (GHG) production.

To reduce energy costs, water and wastewater treatment plants must understand their electric utility rates and rate structures. For example, maximizing off-peak demand to reduce costs, plus load monitoring and shifting opportunities, could provide needed funds for additional energy management. Investigating utility rebates, as well as federal and state grants for energy-efficient operations, or use of alternative energy sources also may gain the facility additional funds.



## EPA Statement On Chromium-6 In Drinking Water

December 21, 2010

Washington — The EPA issued the following statement and background information in response to a study released on Dec. 20, 2010, by the Environmental Working Group:

"EPA absolutely has a drinking water standard for total chromium, which includes chromium-6 (also known as Hexavalent Chromium), and we require water systems to test for it. This standard is based on the best available science and is enforceable by law. Ensuring safe drinking water for all Americans is a top priority for EPA. The agency regularly re-evaluates drinking water standards and, based on new science on chromium-6, had already begun a rigorous and comprehensive review of its health effects. In Sep., we released a draft of that scientific review for public comment. When this human health assessment

is finalized in 2011, EPA will carefully review the conclusions and consider all relevant information, including the Environmental Working Group's study, to determine if a new standard needs to be set."

### Background:

Currently, the total chromium standard is 0.1 mg/L (100 parts per billion). Our latest data shows no U.S. utilities are in violation of the standard.

### More information on chromium:

<http://water.epa.gov/drink/contaminants/basicinformation/chromium.cfm>

### To track the status of the ongoing risk assessment:

<http://cfpub.epa.gov/ncea/iristrac/index.cfm?>

### **Certification and Licensing Branch Staff Member Profile**

#### **Jessica Wilhoite**

Jessica Wilhoite works as an administrative specialist for the Certification and Licensing Branch. She processes applications for water treatment, distribution and bottled water operators; registrations for continuing education courses and renewals of water and wastewater operators, proctors exams held in Frankfort, and is one of four staff members who answer calls requesting information and assistance with all things relating to drinking water and wastewater certification.

Jessica started in the certification program as a temporary employee and was hired by the division permanently in 2005.



#### **E-mail List**

Did you know that you can receive announcements, newsletters and other programmatic information through e-mail? This service is offered by the Certification and Licensing Program. and you too, can be added to the distribution list by calling 1-800-926-8111, ext. 652, or by e-mailing [Julia.Kays@ky.gov](mailto:Julia.Kays@ky.gov).



### **2011 Frankfort Exam Dates**

#### **January 14, 2011**

Course Code: EO-011411

New applications should be received by the Certification and Licensing Branch by Dec. 11, 2010.

#### **March 18, 2011**

Course Code: EO-031811

New applications should be received by the Certification and Licensing Branch by Feb. 28, 2011.

#### **May 6, 2011**

Course Code: EO-050611

New applications should be received by the Certification and Licensing Branch by April 6, 2011.

#### **July 8, 2011**

Course Code: EO-070811

New applications should be received by the Certification and Licensing Branch by June 8, 2011.

#### **September 9, 2011**

Course Code: EO-090911

New applications should be received by the Certification and Licensing Branch by Aug. 9, 2011.

#### **November 4, 2011**

Course Code: EO-110411

New applications should be received by the Certification and Licensing Branch by Oct. 4, 2011.

## DIVISION OF COMPLIANCE ASSISTANCE

Certification and Licensing Branch  
300 Fair Oaks Lane  
Frankfort, KY 40601

Phone: 800-926-8111 or  
502-564-0323

Fax: 502-564-9720

Webpage:

[www.dca.ky.gov/certification](http://www.dca.ky.gov/certification)



### FREE Technical Assistance

#### Available Through Environmental Compliance Assistance Program

Did you know that the Division of Compliance Assistance offers free compliance assistance? Our services are available to all individuals, communities and businesses regulated by the department. We want to help you succeed!

Call us toll-free at **1-800-926-8111**.

### *Certification and Licensing Branch Staff*



Julia Kays, Manager

#### Administration

Lisa Butler  
Veronica Roland  
Amanda Starks  
Jessica Wilhoite

#### Drinking Water Operator Training

Steve Crosman  
Clayton Getz

#### Wastewater Operator Training

Tim Ricketts  
George Haynes

### *Green Tip*

#### **Green Tip**

Buy a programmable thermostat, which will cut down on your energy usage and save you money.

